

Practitioner's Docket No. U 013687-7

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00140

PATENT TRADEMARK OFFICE

CHAPTER II

TRANSMITTAL LETTER
TO THE UNITED STATES ELECTED OFFICE (EO/US)

(ENTRY INTO U.S. NATIONAL PHASE UNDER CHAPTER II)

PCT/DK00/00220	2 MAY 2000	3 MAY 1999
INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
A WEIGHING MACHINE		
TITLE OF INVENTION		
HANS PETER WIDMER		
APPLICANT(S)		

Box PCT
Assistant Commissioner for Patents
Washington D.C. 20231
ATTENTION: EO/US

NOTE: The completion of those filing requirements that can be made at a time later than 30 months from the priority date

CERTIFICATION UNDER 37 C.F.R. 1.10*

(Express Mail label number is **mandatory**.)

(Express Mail certification is optional.)

I hereby certify that this correspondence and the documents referred to as attached therein are being deposited with the United States Postal Service on this date October 26, 2001, in an envelope as "Express Mail Post Office to Addressee," Mailing Label Number EV 011018872 US, addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

MARIA MELIAN

(type or print name of person mailing paper)

Signature of person mailing paper

WARNING: Certificate of mailing (first class) or facsimile transmission procedures of 37 C.F.R. 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

***WARNING:** Each paper or fee filed by "Express Mail" **must** have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. 1.10(b).
"Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will **not** be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442

results from the Commissioner exercising his judgment under the authority granted under 35 USC 371(d). The filing receipt will show the actual date of receipt of the last item completing the entry into the national phase. See 37 C.F.R. §1.491 which states: "An international application enters the national state when the applicant has filed the documents and fees required by 35 USC 371(c) within the periods set forth in § 1.494 and § 1.495."

WARNING: Where the items are those which can be submitted to complete the entry of the international application into the national phase are subsequent to 30 months from the priority date the application is still considered to be in the international state and if mailing procedures are utilized to obtain a date the express mail procedure of 37 C.F.R. §1.10 must be used (since international application papers are not covered by an ordinary certificate of mailing - See 37 C.F.R. §1.8.

NOTE: Documents and fees must be clearly identified as a submission to enter the national state under 35 USC 371 otherwise the submission will be considered as being made under 35 USC 111. 37 C.F.R. § 1.494(f).

1. Applicant herewith submits to the United States Elected Office (EO/US) the following items under 35 U.S.C. 371:

- a. ☒ This express request to immediately begin national examination procedures (35 U.S.C. 371(f)).
- b. ☒ The U.S. National Fee (35 U.S.C. 371(c)(1)) and other fees (37 C.F.R. § 1.492) as indicated below:

2.Fees

CLAIMS FEE	(1) FOR	(2) NUMBER FILED	(3) NUMBER EXTRA	(4) RATE	(5) CALCULATIONS
[]*	TOTAL CLAIMS	13- 20 =		x \$ 18.00 =	\$
	INDEPENDENT CLAIMS	1- 3 =		x \$ 84.00 =	
	MULTIPLE DEPENDENT CLAIM(S) (if applicable) + \$280.00				
BASIC FEE**	<p>[] U.S. PTO WAS INTERNATIONAL PRELIMINARY EXAMINATION AUTHORITY Where an International preliminary examination fee as set forth in § 1.482 has been paid on the international application to the U.S. PTO:</p> <p>[] and the international preliminary examination report states that the criteria of novelty, inventive step (non-obviousness) and industrial activity, as defined in PCT Article 33(2) to (4) have been satisfied for all the claims presented in the application entering the national stage (37 CFR 1.492(a)(4)) \$100.00</p> <p>[] and the above requirements are not met (37 CFR 1.492(a)(1)) \$710.00</p> <p>[X] U.S. PTO WAS NOT INTERNATIONAL PRELIMINARY EXAMINATION AUTHORITY Where no international preliminary examination fee as set forth in § 1.482 has been paid to the U.S. PTO, and payment of an international search fee as set forth in § 1.445(a)(2) to the U.S. PTO:</p> <p>[] has been paid (37 CFR 1.492(a)(2)) \$740.00</p> <p>[X] has not been paid (37 CFR 1.492(a)(3)) \$1,040.00</p> <p>[] where a search report on the international application has been prepared by the European Patent Office or the Japanese Patent Office (37 CFR 1.492(a)(5)) \$890.00</p>				
	Total of above Calculations				=1,040.00
SMALL ENTITY	Reduction by ½ for filing by small entity, if applicable. Statement may also be filed. (note 37 CFR 1.9, 1.27, 1.28)				-
	Subtotal				
	Total National Fee				\$1,040.00
	Fee for recording the enclosed assignment document \$40.00 (37 CFR 1.21(h)). (See Item 13 below). See attached "ASSIGNMENT COVER SHEET".				
TOTAL	Total Fees enclosed				\$1,040.00

*See attached Preliminary Amendment Reducing the Number of Claims.

- A duplicate copy of this sheet is enclosed.

WARNING: *If the translation of the international application and/or the oath or declaration have not been submitted by the applicant within thirty (30) months from the priority date, such requirements may be met within a time period set by the Office. 37 C.F.R. § 1.495(b)(2). The payment of the surcharge set forth in § 1.492(e) is required as a condition for accepting the oath or declaration later than thirty (30) months after the priority date. The payment of the processing fee set forth in § 1.492(f) is required for acceptance of an English translation later than thirty (30) months after the priority date. Failure to comply with these requirements will result in abandonment of the application. The provisions of § 1.136 apply to the period which is set. Notice of Jan. 3, 1993, 1147 O.G. 29 to 40.*

4. ☒ A translation of the International application into the English language (35 U.S.C. 371(c)(2)):
- a. ☒ is transmitted herewith.
- b. ☐ is not required as the application was filed in English.
- c. ☐ was previously transmitted by applicant on _____.
Date
- d. ☐ will follow.

5. [X] Amendments to the claims of the International application under PCT Article 19 (35 U.S.C. 371(c)(3)):

NOTE: The Notice of January 7, 1993 points out that 37 C.F.R. § 1.495(a) was amended to clarify the existing and continuing practice that PCT Article 19 amendments must be submitted by 30 months from the priority date and this deadline may not be extended. The Notice further advises that: "The failure to do so will not result in loss of the subject matter of the PCT Article 19 amendments. Applicant may submit that subject matter in a preliminary amendment filed under section 1.121. In many cases, filing an amendment under section 1.121 is preferable since grammatical or idiomatic errors may be corrected." 1147 O.G. 29-40, at 36.

- a. ☐ are transmitted herewith.
b. ☐ have been transmitted
i. ☐ by the International Bureau.
Date of mailing of the amendment (from form PCT/IB/308): _____.
ii. ☐ by applicant on _____.
Date
c. ☒ have not been transmitted as
i. ☒ applicant chose not to make amendments under PCT Article 19.
Date of mailing of Search Report (from form PCT/ISA/210): September 8, 2000.
ii. ☐ the time limit for the submission of amendments has not yet expired.
The amendments or a statement that amendments have not been made will be transmitted before the expiration of the time limit under PCT Rule 46.1.
6. ☒ A translation of the amendments to the claims under PCT Article 19 (38 U.S.C. 371(c)(3)):
a. ☐ is transmitted herewith.
b. ☐ is not required as the amendments were made in the English language.
c. ☒ has not been transmitted for reasons indicated at point 5(c) above.
7. ☒ A copy of the international examination report (PCT/IPEA/409)
☒ is transmitted herewith.
☐ is not required as the application was filed with the United States Receiving Office.
8. ☐ Annex(es) to the international preliminary examination report
a. ☐ is/are transmitted herewith.
b. ☐ is/are not required as the application was filed with the United States Receiving Office.
9. ☐ A translation of the annexes to the international preliminary examination report
a. ☐ is transmitted herewith.
b. ☐ is not required as the annexes are in the English language.

10. [X] An oath or declaration of the inventor (35 U.S.C. 371(c)(4)) complying with 35 U.S.C. 115
- a. [] was previously submitted by applicant on _____
Date
- b. [X] is submitted herewith, and such oath or declaration
- i. [] is attached to the application.
- ii. [X] identifies the application and any amendments under PCT Article 19 that were transmitted as stated in points 3(b) or 3(c) and 5(b); and states that they were reviewed by the inventor as required by 37 C.F.R. 1.70.
- c. [] will follow.

Other document(s) or information included:

11. [X] An International Search Report (PCT/ISA/210) or Declaration under PCT Article 17(2)(a):
- a. [X] is transmitted herewith.
- b. [] has been transmitted by the International Bureau.
Date of mailing (from form PCT/IB/308): _____
- c. [] is not required, as the application was searched by the United States International Searching Authority.
- d. [] will be transmitted promptly upon request.
- e. [] has been submitted by applicant on _____
Date
12. [X] An Information Disclosure Statement under 37 C.F.R. 1.97 and 1.98:
- a. [X] is transmitted herewith.
Also transmitted herewith is/are:
- [X] Form PTO-1449 (PTO/SB/08A and 08B).
- [X] Copies of citations listed.
- b. [] will be transmitted within THREE MONTHS of the date of submission of requirements under 35 U.S.C. 371(c).
- c. [] was previously submitted by applicant on _____
Date
13. [X] An assignment document is transmitted herewith for recording.

A separate [X] "COVER SHEET FOR ASSIGNMENT (DOCUMENT) ACCOMPANYING NEW PATENT APPLICATION" or [] FORM PTO 1595 is also attached.

14. ☒ Additional documents:
- a. ☒ Copy of request (PCT/RO/101)
- b. ☒ International Publication No. WO 00/66983
- i. ☒ Specification, claims and drawing
- ii. ☐ Front page only
- c. ☒ Preliminary amendment (37 C.F.R. § 1.121)
- d. ☐ Other

PCT/IB/304; PCT/IB/308; PCT/IB/332;

3 SHEETS OF FORMAL DRAWINGS

15. ☒ The above checked items are being transmitted
- a. ☒ before 30 months from any claimed priority date.
- b. ☐ after 30 months.
16. ☐ Certain requirements under 35 U.S.C. 371 were previously submitted by the applicant on _____, namely:
- _____
- _____
- _____

AUTHORIZATION TO CHARGE ADDITIONAL FEES

WARNING: *Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges if extra claims are authorized.*

NOTE: *"A written request may be submitted in an application that is an authorization to treat any concurrent or future reply, requiring a petition for an extension of time under this paragraph for its timely submission, as incorporating a petition for extension of time for the appropriate length of time. An authorization to charge all required fees, fees under § 1.17, or all required extension of time fees will be treated as a constructive petition for an extension of time in any concurrent or future reply requiring a petition for an extension of time under this paragraph for its timely submission. Submission of the fee set forth in § 1.17(a) will also be treated as a constructive petition for an extension of time in any concurrent reply requiring a petition for an extension of time under this paragraph for its timely submission." 37 C.F.R. § 1.136(a)(3).*

NOTE: *"Amounts of twenty-five dollars or less will not be returned unless specifically requested within a reasonable time, nor will the payer be notified of such amounts; amounts over twenty-five dollars may be returned by check or, if requested, by credit to a deposit account." 37 C.F.R. § 1.26(a).*

☒ The Commissioner is hereby authorized to charge the following additional fees that may be required by this paper and during the entire pendency of this application to Account No. 12-0425.

☒ 37 C.F.R. 1.492(a)(1), (2), (3), and (4) (filing fees)

WARNING: *Because failure to pay the national fee within 30 months without extension (37 C.F.R. § 1.495(b)(2)) results in abandonment of the application, it would be best to always check the above box.*

☐ 37 C.F.R. 1.492(b), (c) and (d) (presentation of extra claims)

NOTE: *Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must*

only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 C.F.R. § 1.492(d)), it might be best not to authorize the PTO to charge additional claim fees, except possible when dealing with amendments after final action.

- ☒ 37 C.F.R. 1.17 (application processing fees)
☒ 37 C.F.R. 1.17(a)(1)-(5)(extension fees pursuant to § 1.136(a).
☒ 37 C.F.R. 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 C.F.R. 1.311(b))

NOTE: Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 C.F.R. § 1.311(b).

NOTE: 37 C.F.R. 1.28(b) requires "Notification of any change in loss of entitlement to small entity status must be filed in the application . . . prior to paying, or at the time of paying . . . issue fee." From the wording of 37 C.F.R. § 1.28(b): (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.

- ☐ 37 C.F.R. § 1.492(e) and (f) (surcharge fees for filing the declaration and/or filing an English translation of an International Application later than 30 months after the priority date).


SIGNATURE OF PRACTITIONER

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: PETER HANS WIDMER

International Application No.: PCT/DK00/00220

International Filing Date: 2 MAY 2000

Priority Date: 3 MAY 1999

For: A WEIGHING MACHINE

Attorney Docket No.: U 013687-7

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Please amend the above identified application as follows:

IN THE CLAIMS:

Cancel original Claims 1-12.

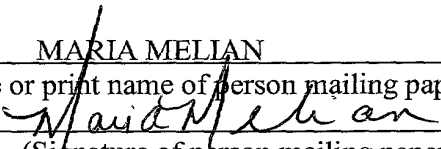
Add the following new claims:

CERTIFICATE UNDER 37 CFR 1.10

I hereby certify that this paper is being deposited with the United States Postal Service on this date OCTOBER 26, 2001 in an envelope as "EXPRESS MAIL POST OFFICE TO ADDRESSEE" Mailing Label Number EV 011018872 US addressed to the: Commissioner of Patents and Trademarks, Washington, D.C. 20231

MARIA MELIAN

(Type or print name of person mailing paper)


(Signature of person mailing paper)

NOTE: Each paper or fee referred to as enclosed herein has the number of the "EXPRESS MAIL" mailing label place thereon prior to mailing 37 CFR 1.16(b).

13. (New) A weighing machine for weighing off batches of material, said weighing machine comprising a frame portion on which a central distributor, a plurality of transporters and a plurality of scales are mounted, and wherein the transporters are arranged around the central distributor and configured with a view to transporting material from the distributor and radially outwards from the central distributor and to the scales, characterized in that the weighing machine comprises one or more substantially uninterrupted frustoconical shields in the form of screen faces that extend underneath the transporters in the operative position of the machine.

14. (New) A weighing machine according to claim 13, characterized in that the uninterrupted shield extends from a point underneath the distributor and outwards and downwards underneath at least that end of the transporters that faces towards the central distributor in the operative position of the machine.

15. (New) A weighing machine according to claim 13, characterized in that each of the transporters comprises a groove with a first end that faces towards the central distributor and another open end that faces towards one or more scales, and wherein the groove is delimited by two lateral edges that extend between the first and the second open end.

16. (New) A weighing machine according to claim 13, characterized in that the screen faces comprises frustoconical faces that are made of a plate material, and that at the bottom the screen faces end in a relatively sharp edge with a view to forming a drop catcher for liquid, if any, that runs down the screen faces.

17. (New) A weighing machine according to claim 16, characterized in that the

screen faces further comprise cylindrical faces that extend from a frustoconical face and downwards from its lowermost edge.

18. (New) A weighing machine according to claim 13, characterized in that, at the lowermost edge of the screen faces, a collector groove or a collector tray is configured with a view to collecting material that drops from the distributor or transporters and that will, via the screen faces, proceed into the collector groove.

19. (New) A weighing machine according to claim 18, characterized in that an outlet from the collector groove is configured in particular for liquids that are collected in the collector groove.

20. (New) A weighing machine according to claim 13, characterized in that the screen faces constitute a part of the frame construction of the weighing machine, and wherein the central distributor, the transporters and/or the scales are mounted on the screen face by means of fittings intended therefor.

21. (New) A weighing machine according to claim 20, characterized in that the fittings are configured such that they permit material that runs or slides down the screen face to run or slide past the fitting.

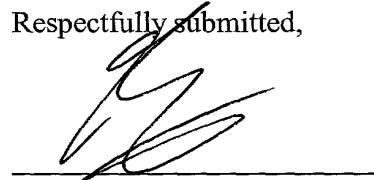
22. (New) A weighing machine according to claim 21, characterized in that the fittings comprise substantially plane plate flanges that are attached to the screen face in such a manner that the plane of the plate flange extends substantially vertically or slantingly downwards.

23. (New) A weighing machine according to claim 22, characterized in that the weighing machine comprises a computer is for collecting weighing data from the scales and for controlling the transporters, and wherein at least a part of the weighing machine computer is located underneath the screen face.

24. (New) A weighing machine according to claim 23, characterized in that a number of liquid nozzles are configured underneath the screen face, said nozzles being connected to a liquid conduit with a view to sweeping and cleaning the screen face with cleaning liquid.

25. (New) A weighing machine according to claim 15, characterized in that the screen face extends substantially uninterrupted from a place underneath the central distributor and out below the other end of the grooves.

Respectfully submitted,



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A weighing machine

The present invention relates to weighing machines for weighing off batches of material, said weighing machines comprising a steel construction on which a central distributor, a plurality of transporters and a plurality of scales are mounted, and wherein the transporters are arranged around the central distributor and configured with a view to transporting material from the distributor and radially outwards from the central distributor and to the scales.

Today such weighing machines are used essentially for forming batches of bulk material of a weight that is very close to a desired reference weight such that the batches can be transferred to eg a packaging machine that packages the individual batches.

Such weighing machines that are often designated combination weights operate in that each of the scales are, by means of the transporters, filled with a batch portion of the bulk material that was initially supplied to the central distributor and then, via the central distributor, transferred to the individual transporters. The individual batch portion is subsequently weighed off the bulk product into the individual scales, and by means of a calculator or computer the scales are found that combine to contain a bulk product that is close to the desired reference weight. Finally the calculator is configured to effect that the thus identified scales are emptied to form the total batch of the bulk product, and since it is possible to continuously form and identify combinations of scales that combine to contain the desired amount, such machines enable very elevated production rates while

generating a large number of material batches exhibiting very small variations in their weight.

However, it is a problem in connection with the prior art machines to be used for this purpose that it is necessary to configure the central distributor as well as the individual transporters such that there is a certain amount of clearance there between, and since there is often a considerable amount of the bulk material present in these parts of the machine, practice has shown that it is difficult to avoid that material, be it individual loose objects or fluid, passes through the clearances present between the central distributor and the transporters, and between the transporters as such.

Thus, in case of the prior art machinery it is often necessary to perform regular cleaning of the machine, such material constituents being susceptible to deposit on the frame parts of the machine with for instance an ensuing sanitary hazard.

In the light of this it is the object of the present invention to provide a weighing machine of the kind described above whereby such sanitary hazards have been completely or partially overcome.

According to the invention this is obtained in that the weighing machine comprises one or more substantially uninterrupted shields in the form of screen faces that extend from somewhere underneath the distributor and outwards and downwards below at least that end of the transporter that faces towards the central distributor, seen in the operative position of the machine.

According to a preferred embodiment of the invention the transporters of the weighing machine is configured such that they comprise a groove with a first end that faces towards the central distributor and a second, open end that faces towards one or more scales; and wherein the groove is delimited by two lateral edges that extend between the first and the second open ends.

The screen faces in the weighing machine can preferably comprise frustoconical or upwardly convex, rounded faces that can be configured from a plate material in a simple manner.

To this end, the screen faces may advantageously comprise cylindrical faces that extend from a frustoconical face and downwards from the lower edge thereof whereby the screen face can be configured such that its distance from the central distributor, the transporters and for instance scales can be adapted in such a manner that material that drops onto the screen face does not drop too rapidly.

Particularly advantageously a collector groove is configured at the lower edge of the screen faces with a view to collecting material that drops from the distributor or the transporters, and that will - via the screen faces - be conveyed down into the collector groove. Hereby cleaning of the machine, if to be performed, is enabled with liquids without the liquids continuing down into a subjacent packing machine, if any, and that for instance liquids from the bulk material portioned in the machine and that run down through the clearances, eg between the individual transporters and the central distributor, do not drip into the packaging machine or the packagings.

In this context the collector grooves advantageously features an outlet in particular for liquids that are collected in the collector groove.

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According to a further preferred embodiment of the invention the screen faces constitute a part of the weighing machine's frame construction, and the central distributor, the transporters and/or the scales are mounted on the screen face by means of fittings intended therefor. Hereby it is possible - with the screen faces - to construct an extremely vibration-free shell construction that will support the individual constituents that are mounted thereon in a stable manner.

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To this end the fittings can advantageously be configured such that they permit material that runs or slides down the screen face to run or slide past the fitting, and in accordance with a particularly simple embodiment of the fittings, they comprise substantially planar plate flanges that are secured to the screen face in such a manner that the plane of the plate flange extends substantially vertically or slantingly downwards.

Advantageously, the weighing machine comprises a computer for collecting weighing data from the scales and for controlling the transporters; and wherein at least a part of the weighing machine computer is arranged below the screen face thereby avoiding a considerable amount of wirings from an external computer and which also means that the computer is still well shielded against soiling and humidity.

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Further advantageously a number of liquid nozzles can be configured above the screen face, said nozzles being connected to a conduit for liquids with a view to sweeping and cleaning the screen face with cleaning liquid. This enables extremely simple cleaning of the machine when necessary.

According to an embodiment that is particularly suitable for portioning material that consists of solid components the screen face can extend substantially uninterrupted from a point underneath the central distributor and out underneath the other end of the grooves. This is due to the fact that primarily the solid components have a tendency to travel out between the spaces that are located between the individual transporters and the screen face will thereby effectively catch such solid components.

The invention will now be described in further detail in with reference to the drawings, wherein

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Figure 1 is a principle sketch that outlines, in a sectional view through the centre axis of the machine, a weighing machine according to the invention, seen from the side;

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Figure 2 is a perspective sectional view that shows the weighing machine shown in Figure 1 in an inclined top plan view in the vertical sectional plane through the centre axis of the machine;

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Figure 3 is a principle sketch that illustrates an alternative embodiment of the invention, seen from the side.

Thus, Figures 1 and 2 illustrate a weighing machine 1, said weighing machine 1 comprising - like the commonly known weighing machines for combination weighing material - a central distributor 2, an number of transporters 3 provided with grooves 14, a number of portioning dishes 4 and a corresponding number of scales 5. For the sake of clarity the drawing shows only one transporter 3, one portioning dish 4 and one scale, but - as is commonly known within the field of combination weighing machines - a fully mounted weighing machine comprises a plurality of such that are arranged peripherally and circularly around the central distributor. Thus the machine is constructed essentially symmetrically about its centre axis A and as shown it comprises a number of legs 6 that support the frame of the machine.

The functioning of the weighing machine 1 is such that an amount of the bulk material to be portioned is deposited on the central distributor 2. This could comprise appliances such as nails, screws, nuts, etc, or they may be foodstuffs, such as candies, wine gums, fish or cheese.

By means of the central distributor 2 the bulk material is distributed to the individual transporters 3. This can be accomplished by the bulk material sliding on the central distributor, but very often special means are used to ensure this distributor, such as a vibrator (not shown in the drawing) that is configured for imparting to the central distributor a spiral movement about the central axis A of the weighing machine.

When the bulk material from the central distributor 2 reaches each of the transporters they will, by means of eg a linear vibration motor 7, ensure that the bulk mate-

rial is moved outwards towards the peripherally arranged portioning dishes 4 that are filled at least partially with a portion of the bulk material. Since each of the portioning dishes 4 is provided with an activatable flap 8, this portion of the bulk material can be transferred to the scale 5 that is located underneath the portioning dish 4, said scale being provided with (not shown) means for weighing the transferred portion; and wherein the bottom of the scale 5 is configured with an activatable flap 9 whereby the scale can be emptied.

Since there are several such transporters, portioning dishes and scales it is thus clear that the above-mentioned functionality can, by means of convenient control - for instance computer aided - carry out repeated weighing and discharge operations of individual portions of the bulk material, and by combination of two or more of the portions, portions exhibiting very small variations relative to a desired weight can be obtained.

According to the invention the machine shown in Figure 1 is provided with a shield 10,11,12,13, said shield comprising an upper frustoconical face 10 that extends, at its lower end, into an upper circular cylindrical face 11 that yet again, at its lower end, extends into a further lower frustoconical face 12 that finally extends into a lower circular cylindrical face 13 on which the legs 6 of the machine are mounted.

In this manner it is ensured that liquids, if any, that are emitted from the bulk material on the weighing machine during the weighing procedure and that optionally collects in the grooves 14 of the transporters 3 and run towards the centre axis A of the weighing machine will

proceed down onto the upper frustoconical face 10 and then down the shield 10,11,12,13 such that it is readily ensured that the liquid is collected and does not continue into the (not shown) packing machine that is optionally arranged underneath the weighing machine 1.

Preferably such collection of the liquids is, according to the embodiment shown in Figures 1 and 2, established by means of a collector groove 15 wherein there is optionally mounted an outlet stub for ready emptying the collector groove 15, if necessary.

The weighing machine shown in Figures 1 and 2 is particularly suitable for weighing off products or bulk material wherein liquid is discharged, or where dust or the like is emitted that can be humidified by the atmospheric air and thus form a liquid substance. Since a liquid that is optionally discharged will primarily collect at the bottom of the groove, the liquid will either run towards the portioning dishes and very likely be included in the weighing process, or else it will run towards the centre axis A and collect as explained above.

Since it is a rare occurrence in itself that the liquid will drip from the lateral edges on the grooves 14 in the transporters it is not necessary to provide a shield that covers underneath the entire length of the transporters.

Then, Figure 3 illustrates an alternative embodiment of a weighing machine according to the invention that is particularly suitable for weighing bulk material that consists of relatively small, hard individual components. As will appear the weighing machine 20 shown in Figure 3 is constructed in accordance with the same principles as the

weighing machine shown in Figures 1 and 2 and the constituents of this machine are thus shown with the same reference numerals as the machine shown in Figure 1 and 2 and thus no further explanation of the functionality of the machine will be given here.

The embodiment shown in Figure 3, however, is particular in that the shield 10 extends underneath a considerable part of the length of the transporters 3 thereby enabling the shield 10 to collect individual components, if any, that drop between the transporters 3. Thus the substantially frustoconical shield 10 forms a chute that ensures that there is only a very small risk of the individual components remaining on the frame of the weighing machine or any other constituents.

As will appear, a convenient embodiment of the invention provides a frame portion 16 that extends across the shield 10 at a distance there from and thereby permits individual components from the bulk material to slide underneath the frame portion 16. As shown this frame portion can be configured as an annular tube and thereby it is also possible, as shown, to arrange a number of spray nozzles 17 that can, via the tube, be supplied with pressurized cleaning liquid thereby enabling simple cleaning of the shield 10 by sweeping thereof.

Besides, the embodiment of the invention shown in Figure 3 distinguishes itself from the one shown in Figures 1 and 2 in that a collector groove is not provided at the lower edge of the shield, which means that constituents, if any, from the bulk material is not collected therein and removed, but that such constituents will be conveyed down into the packing machine and be included in a batch

that has already been weighed, and in this context a not shown chute can conveniently be configured that conveys the individual components down into one of the scales such that these components are still included in the weighed-off portion.

As will appear from the figures, the shield 10,11,12 and 13 will form a space below them wherein, according to a preferred embodiment, major constituents for the machine can be arranged, such as control unit or computer optionally configured for activating the transporters 3, the flaps 8 and 9 of the portioning dishes 4 and the scales, and optionally for carrying out the requisite combination calculations that are carried out in such combination weighing machines. Hereby it is possible to avoid a large number of the cablings and wirings and the cleaning problems associated therewith that are conventionally encountered in connection with conventional combination weighing machines as a consequence of their having a separate computing unit located a distance from the weighing machine as such.

Obviously the fundamental principle of the present invention is useful in other embodiments of combination weighing than the ones shown in Figures 1, 2 and 3.

C l a i m s

1. A weighing machine for weighing off batches of material, said weighing machine comprising a frame portion on which a central distributor, a plurality of transporters and a plurality of scales are mounted, and wherein the transporters are arranged around the central distributor and configured with a view to transporting material from the distributor and radially outwards from the central distributor and to the scales, characterised in that the weighing machine comprises one or more substantially uninterrupted shields in the form of screen faces that extend from a point underneath the distributor and outwards and downwards underneath at least that end of the transporters that faces towards the central distributor in the operative position of the machine.

2. A weighing machine according to claim 1, characterised in that each of the transporters comprises a groove with a first end that faces towards the central distributor and another open end that faces towards one or more scales, and wherein the groove is delimited by two lateral edges that extend between the first and the second open end.

3. A weighing machine according to claim 1 or 2, characterised in that the screen faces comprises frustoconical faces that are made of a plate material, and that at the bottom the screen faces end in a relatively sharp edge with a view to forming a drop catcher for liquid, if any, that runs down the screen faces.

4. A weighing machine according to claim 3, characterised in that the screen faces further comprise cylindrical

faces that extend from a frustoconical face and downwards from its lowermost edge.

5. A weighing machine according to one of the preceding claims, **characterised** in that, at the lowermost edge of the screen faces, a collector groove or a collector tray is configured with a view to collecting material that drops from the distributor or transporters and that will, via the screen faces, proceed into the collector groove.

10

6. A weighing machine according to claim 5, **characterised** in that an outlet from the collector groove is configured in particular for liquids that are collected in the collector groove.

15

7. A weighing machine according to any one of claims 1 through 4, **characterised** in that the screen faces constitute a part of the frame construction of the weighing machine, and wherein the central distributor, the transporters and/or the scales are mounted on the screen face by means of fittings intended therefor.

20

8. A weighing machine according to claim 7, **characterised** in that the fittings are configured such that they permit material that runs or slides down the screen face to run or slide past the fitting.

25

9. A weighing machine according to claim 8, **characterised** in that the fittings comprise substantially plane plate flanges that are attached to the screen face in such a manner that the plane of the plate flange extends substantially vertically or slantingly downwards.

30

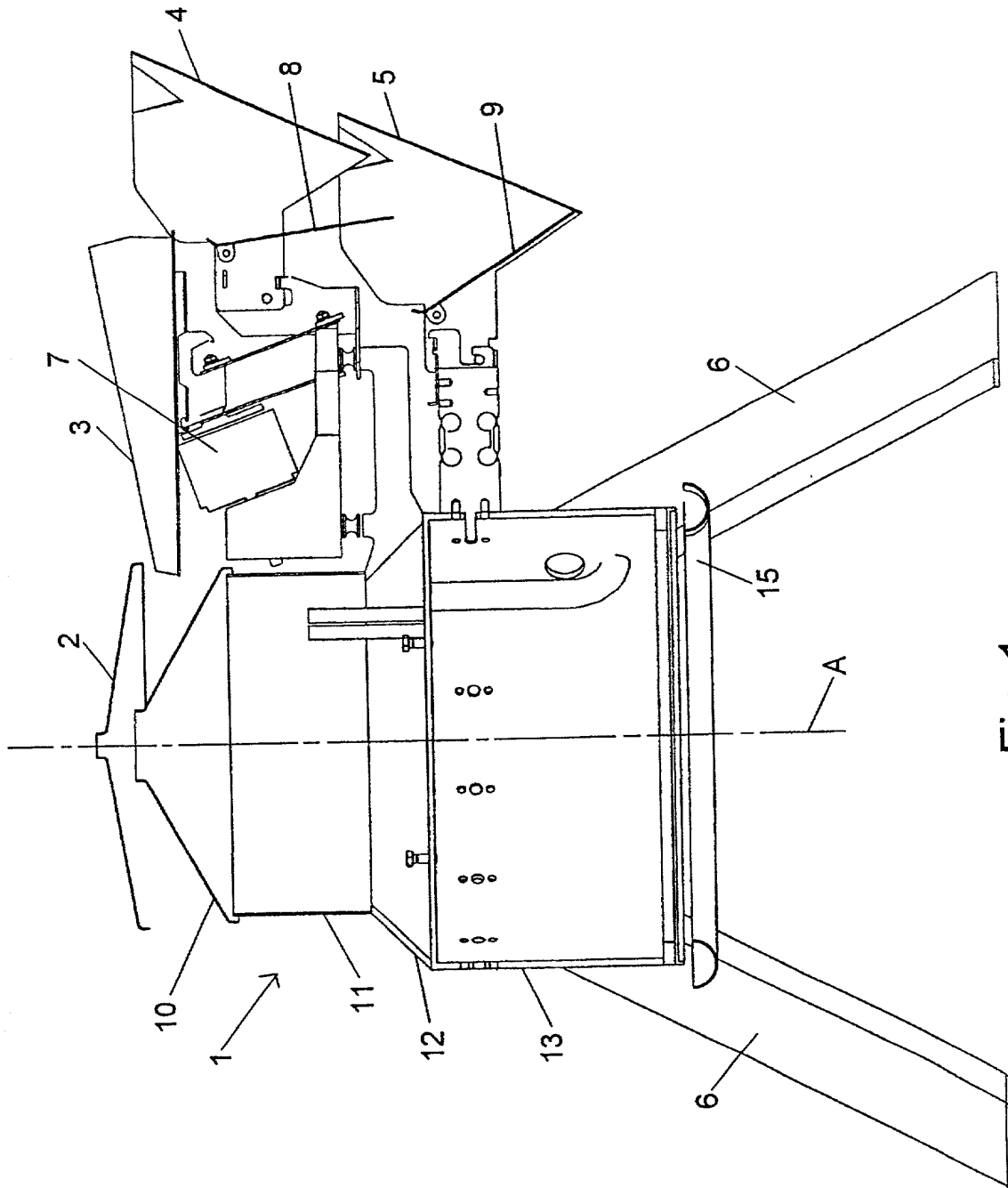
T09207 85608650

10. A weighing machine according to any one of the preceding claims, characterised in that the weighing machine comprises a computer for collecting weighing data from the scales and for controlling the transporters, and
5 wherein at least a part of the weighing machine computer is located underneath the screen face.

11. A weighing machine according to any one of the preceding claims, characterised in that a number of liquid
10 nozzles are configured underneath the screen face, said nozzles being connected to a liquid conduit with a view to sweeping and cleaning the screen face with cleaning liquid.

12. A weighing machine according to claim 2, characterised in that the screen face extends substantially uninterrupted from a place underneath the central distributor and out below the other end of the grooves.
15

FIG. 1



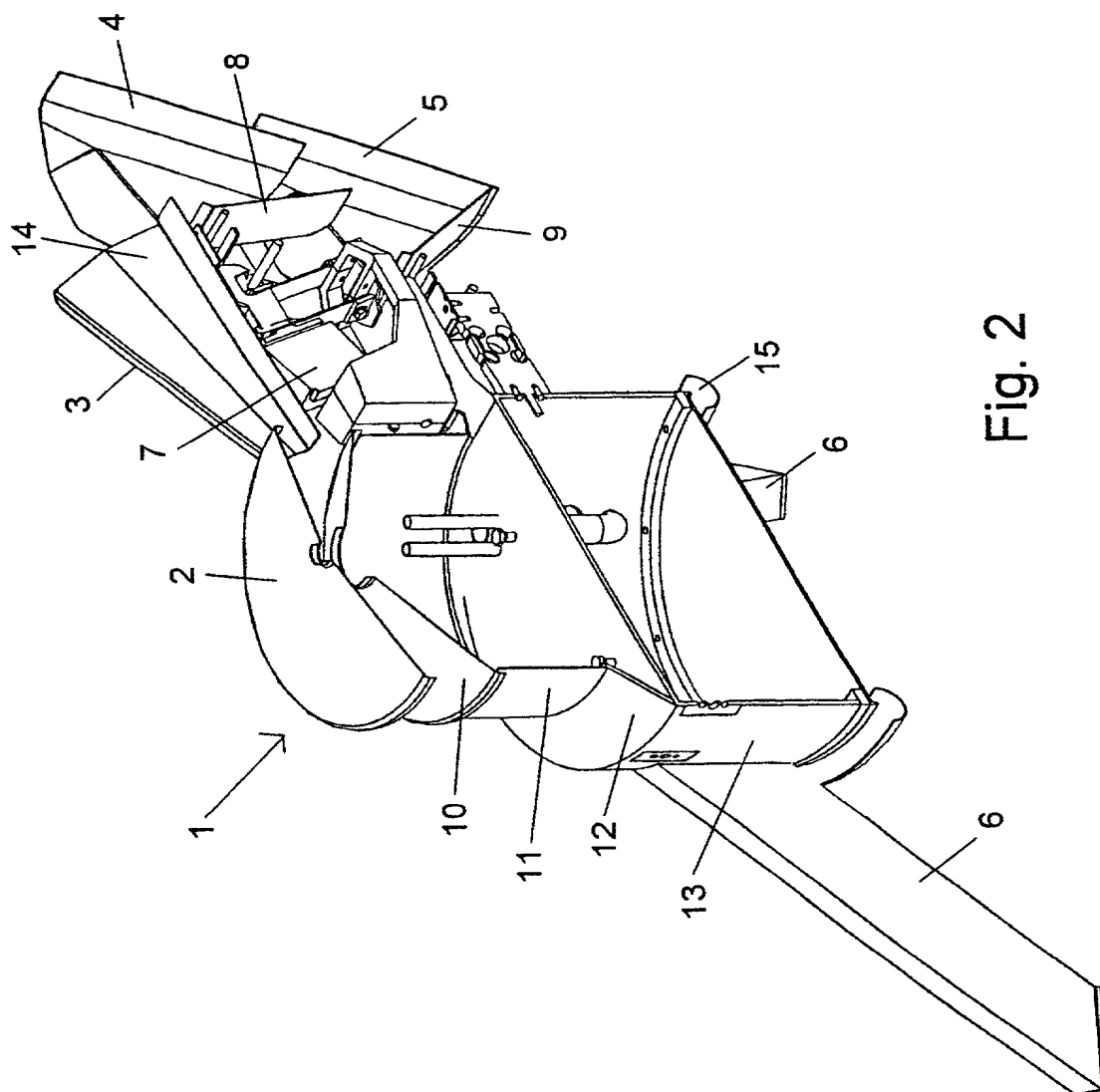


Fig. 2

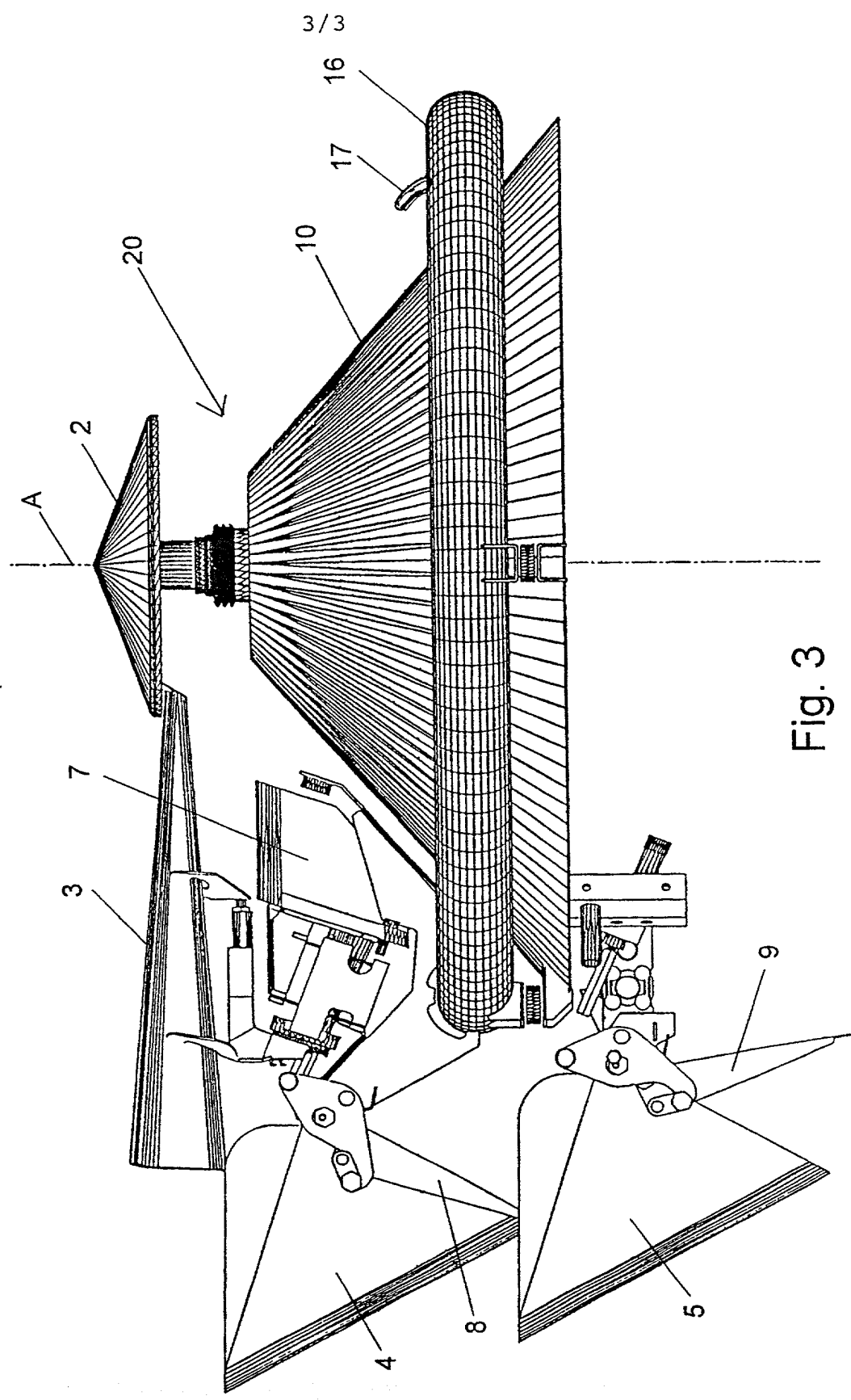


Fig. 3

Practitioner's Docket No. _____

PATENT

COMBINED DECLARATION AND POWER OF ATTORNEY(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL,
CONTINUATION, OR C-I-P)

As a below named inventor, I hereby declare that:

TYPE OF DECLARATION

This declaration is of the following type:

(check one applicable item below)

- ☐ original.
☐ design.
☐ supplemental.

NOTE: If the declaration is for an International Application being filed as a divisional, continuation or continuation-in-part application, do not check next item; check appropriate one of last three items.

- ☒ national stage of PCT.

NOTE: If one of the following 3 items apply, then complete and also attach ADDED PAGES FOR DIVISIONAL, CONTINUATION OR C-I-P.

NOTE: See 37 C.F.R. § 1.63(d) (continued prosecution application) for use of a prior nonprovisional application declaration in the continuation or divisional application being filed on behalf of the same or fewer of the inventors named in the prior application.

- ☐ divisional.
☐ continuation.

NOTE: Where an application discloses and claims subject matter not disclosed in the prior application, or a continuation or divisional application names an inventor not named in the prior application, a continuation-in-part application must be filed under 37 C.F.R. § 1.53(b) (application filing requirements-nonprovisional application).

- ☐ continuation-in-part (C-I-P).

INVENTORSHIP IDENTIFICATION

WARNING: If the inventors are each not the inventors of all the claims, an explanation of the facts, including the ownership of all the claims at the time the last claimed invention was made, should be submitted.

My residence, post office address and citizenship are as stated below, next to my name. I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed, and for which a patent is sought on the invention entitled:

(Declaration and Power of Attorney—page 1 of 8) 1-1

EXPRESS MAIL LABEL
NO.: EV 011018872 US

FO920T"8560860

TITLE OF INVENTION

A weighing machine

SPECIFICATION IDENTIFICATION

The specification of which:

(complete (a), (b), or (c))

(a) ☐ is attached hereto.

NOTE: "The following combinations of information supplied in an oath or declaration filed on the application filing date with a specification are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 C.F.R. § 1.63:

"(1) name of inventor(s), and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration on filing;

"(2) name of inventor(s), and attorney docket number which was on the specification as filed; or

"(3) name of inventor(s), and title which was on the specification as filed."

Notice of July 13, 1995 (1177 O.G. 60).

(b) ☐ was filed on _____, ☐ as Application No. _____
☐ and was amended on _____ (if applicable).

NOTE: Amendments filed after the original papers are deposited with the PTO that contain new matter are not accorded a filing date by being referred to in the declaration. Accordingly, the amendments involved are those filed with the application papers or, in the case of a supplemental declaration, are those amendments claiming matter not encompassed in the original statement of invention or claims. See 37 C.F.R. § 1.67.

NOTE: "The following combinations of information supplied in an oath or declaration filed after the filing date are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 C.F.R. § 1.63:

"(1) name of inventor(s), and application number (consisting of the series code and the serial number; e.g., 08/123,456);

"(2) name of inventor(s), serial number and filing date;

"(3) name of inventor(s) and attorney docket number which was on the specification as filed;

"(4) name of inventor(s), title which was on the specification as filed and filing date;

"(5) name of inventor(s), title which was on the specification as filed and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration; or

"(6) name of inventor(s), title which was on the specification as filed and accompanied by a cover letter accurately identifying the application for which it was intended by either the application number (consisting of the series code and the serial number; e.g., 08/123,456), or serial number and filing date. Absent any statement(s) to the contrary, it will be presumed that the application filed in the PTO is the application which the inventor(s) executed by signing the oath or declaration."

Notice of July 13, 1995 (1177 O.G. 60), M.P.E.P. § 601(a), 6th ed., rev.3.

- (c) ☒ was described and claimed in PCT International Application No. PCT/DK00/00220 filed on May 2, 2000 and as amended under PCT Article 19 on _____ (if any).

SUPPLEMENTAL DECLARATION (37 C.F.R. § 1.67(b))

(complete the following where a supplemental declaration is being submitted)

☐ I hereby declare that the subject matter of the

- ☐ attached amendment
☐ amendment filed on _____.

was part of my/our invention and was invented before the filing date of the original application, above identified, for such invention.

ACKNOWLEDGMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37, Code of Federal Regulations, § 1.56,

(also check the following items, if desired)

☐ and which is material to the examination of this application, namely, information where there is a substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent, and

☐ in compliance with this duty, there is attached an information disclosure statement, in accordance with 37 C.F.R. § 1.98.

PRIORITY CLAIM (35 U.S.C. § 119(a)-(d))

NOTE: "The claim to priority need be in no special form and may be made by the attorney or agent if the foreign application is referred to in the oath or declaration as required by § 1.63. The claim for priority and the certified copy of the foreign application specified in 35 U.S.C. § 119(b) must be filed in the case of an interference (§ 1.630), when necessary to overcome the date of a reference relied upon by the examiner, when specifically required by the examiner, and in all other situations, before the patent is granted. If the claim for priority or the certified copy of the foreign application is filed after the date the issue fee is paid, it must be accompanied by a petition requesting entry and by the fee set forth in § 1.17(i). If the certified copy is not in the English language, a translation need not be filed except in the case of interference; or when necessary to overcome the date of a reference relied upon by the examiner; or when specifically required by the examiner, in which event an English language translation must be filed together with a statement that the translation of the certified copy is accurate." 37 C.F.R. § 1.55(a).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

(complete (d) or (e))

- (d) ☐ no such applications have been filed.
 (e) ☒ such applications have been filed as follows.

NOTE: Where item (c) is entered above and the International Application which designated the U.S. itself claimed priority check item (e), enter the details below and make the priority claim.

**PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS
 (6 MONTHS FOR DESIGN) PRIOR TO THIS APPLICATION
 AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119(a)-(d)**

COUNTRY (OR INDICATE IF PCT)	APPLICATION NUMBER	DATE OF FILING DAY, MONTH, YEAR	PRIORITY CLAIMED UNDER 35 USC 119
Denmark	PA 1999 00599	03 May 1999	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO

CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)
(35 U.S.C. § 119(e))

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

PROVISIONAL APPLICATION NUMBER	FILING DATE
_____/_____/_____	_____/_____/_____
_____/_____/_____	_____/_____/_____
_____/_____/_____	_____/_____/_____

CLAIM FOR BENEFIT OF EARLIER U.S./PCT APPLICATION(S)
UNDER 35 U.S.C. § 120

[] The claim for the benefit of any such applications are set forth in the attached
ADDED PAGES TO COMBINED DECLARATION AND POWER OF
ATTORNEY FOR DIVISIONAL, CONTINUATION OR CONTINUATION-
IN-PART (C-I-P) APPLICATION.

ALL FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION

NOTE: *If the application filed more than 12 months from the filing date of this application is a PCT filing forming the basis for this application entering the United States as (1) the national stage, or (2) a continuation, divisional, or continuation-in-part, then also complete ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR C-I-P APPLICATION for benefit of the prior U.S. or PCT application(s) under 35 U.S.C. § 120.*

POWER OF ATTORNEY

I hereby appoint the following practitioner(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

(list name and registration number)

JOSEPH H. HANDELMAN, 26179
JOHN RICHARDS, 31053
RICHARD J. STREIT, 25765
PETER D. GALLOWAY, 27885
IAN C. BAILLIE, 24090
THOMAS F. PETERSON, 24790

RICHARD P. BERG, 28145
JULIAN H. COHEN, 20302
WILLIAM R. EVANS, 25858
JANET I. CORD, 33778
CLIFFORD J. MASS, 30086
CYNTHIA R. MILLER, 34678

(Check the following item, if applicable)

- ☐ I hereby appoint the practitioner(s) associated with the Customer Number provided below to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.
- ☐ Attached, as part of this declaration and power of attorney, is the authorization of the above-named practitioner(s) to accept and follow instructions from my representative(s).

SEND CORRESPONDENCE TO

DIRECT TELEPHONE CALLS TO:
(Name and telephone number)

Ladas & Parry
26 West 61st Street
New York, N.Y. 10023

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE(S)

NOTE: Carefully indicate the family (or last) name, as it should appear on the filing receipt and all other document.

NOTE: Each inventor must be identified by full name, including the family name, and at least one given name without abbreviation together with any other given name or initial, and by his/her residence, post office address and country of citizenship. 37 C.F.R. § 1.63(a)(3).

NOTE: Inventors may execute separate declarations/oaths provided each declaration/oath sets forth all the inventors. Section 1.63(a)(3) requires that a declaration/oath, inter alia, identify each inventor and prohibits the execution of separate declarations/oaths which each sets forth only the name of the executing inventor. 62 Fed. Reg. 53,131, 53,142, October 10, 1997,

Full name of sole or first inventor

Hans Peter
(Given Name)

(Middle Initial or Name)

WIDMER

Family (Or Last Name)

Inventor's signature (X)

Date (X) 09/05 Country of Citizenship - Swiss

Residence Ellemosevej 18, DK-8370 Hadsten, Denmark

Post Office Address Same as above

Full name of second joint inventor, if any

(Given Name)

(Middle Initial or Name)

Family (Or Last Name)

Inventor's signature

Date Country of Citizenship

Residence

Post Office Address

Full name of third joint inventor, if any

(Given Name)

(Middle Initial or Name)

Family (Or Last Name)

Inventor's signature

Date Country of Citizenship

Residence

Post Office Address

*(check proper box(es) for any of the following added page(s)
that form a part of this declaration)*

- ☐ **Signature** for fourth and subsequent joint inventors. *Number of pages added* _____

* * *

- ☐ **Signature** by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor. *Number of pages added* _____

* * *

- ☐ **Signature** for inventor who refuses to sign or cannot be reached by person authorized under 37 C.F.R. § 1.47. *Number of pages added* _____

* * *

- ☐ Added page for **signature** by one joint inventor on behalf of deceased inventor(s) where legal representative cannot be appointed in time. (37 C.F.R. § 1.47)

* * *

- ☐ Added pages to combined declaration and power of attorney for divisional, continuation, or continuation-in-part (C-I-P) application.

☐ Number of pages added _____

* * *

- ☐ Authorization of practitioner(s) to accept and follow instructions from representative.

*(If no further pages form a part of this Declaration,
then end this Declaration with this page and check the following item)*

- ☐ This declaration ends with this page.